



VoIP V3 Zone Controller 4-Port Audio Out Operations Guide

Part #011171

Document Part #930446B
for Firmware Version 6.0.2

CyberData Corporation
3 Justin Court
Monterey, CA 93940
(831) 373-2601

Operations Guide 930446A
SiP Compliant 011171

COPYRIGHT NOTICE:

© 2011, CyberData Corporation, ALL RIGHTS RESERVED.

This manual and related materials are the copyrighted property of CyberData Corporation. No part of this manual or related materials may be reproduced or transmitted, in any form or by any means (except for internal use by licensed customers), without prior express written permission of CyberData Corporation. This manual, and the products, software, firmware, and/or hardware described in this manual are the property of CyberData Corporation, provided under the terms of an agreement between CyberData Corporation and recipient of this manual, and their use is subject to that agreement and its terms.

DISCLAIMER: Except as expressly and specifically stated in a written agreement executed by CyberData Corporation, CyberData Corporation makes no representation or warranty, express or implied, including any warranty or merchantability or fitness for any purpose, with respect to this manual or the products, software, firmware, and/or hardware described herein, and CyberData Corporation assumes no liability for damages or claims resulting from any use of this manual or such products, software, firmware, and/or hardware. CyberData Corporation reserves the right to make changes, without notice, to this manual and to any such product, software, firmware, and/or hardware.

OPEN SOURCE STATEMENT: Certain software components included in CyberData products are subject to the GNU General Public License (GPL) and Lesser GNU General Public License (LGPL) "open source" or "free software" licenses. Some of this Open Source Software may be owned by third parties. Open Source Software is not subject to the terms and conditions of the CyberData COPYRIGHT NOTICE or software licenses. Your right to copy, modify, and distribute any Open Source Software is determined by the terms of the GPL, LGPL, or third party, according to who licenses that software.

Software or firmware developed by Cyberdata that is unrelated to Open Source Software is copyrighted by CyberData, subject to the terms of CyberData licenses, and may not be copied, modified, reverse-engineered, or otherwise altered without explicit written permission from CyberData Corporation.

TRADEMARK NOTICE: CyberData Corporation and the CyberData Corporation logos are trademarks of CyberData Corporation. Other product names, trademarks, and service marks may be the trademarks or registered trademarks of their respective owners.



Technical Support

The fastest way to get technical support for your VoIP product is to submit a VoIP Technical Support form at the following website:
<http://www.cyberdata.net/support/contactsupportvoip.html>

We have several technical support staff monitoring this form and they will contact you within 12 hours after receiving a submission.

Phone: (831) 373-2601, Ext. 333

Email: support@cyberdata.net

Fax: (831) 373-4193

Company and product information is at www.cyberdata.net.

Revision History

Revision 930446B, which corresponds to firmware version 6.0.2, was released on December 6, 2011 and has the following changes:

- Updates [Figure 2-1, "Typical Installation"](#).
- Updates [Figure 2-2, "Connecting to the Power Source"](#).
- Updates [Figure 2-3, "Connecting to the Network"](#).
- Updates [Figure 2-4, "V3 Zone Controller Indicator LEDs"](#).
- Updates [Figure 2-5, "RTFM Switch"](#).
- Updates [Figure 2-12, "Zone Configuration Setup"](#).
- Updates [Section 2.3.4.1, "Confirm Power on, Network Connectivity, and Connection Speed"](#).
- Adds [Appendix A, "Mounting the V3 Zone Controller"](#).
- Adds the following note below [Figure 2-14, "Audio Configuration Page"](#): "To test an audio file, first select the ports (located at the bottom of the Audio Configuration Page) that you want to play the audio file to, and then press the Play button for the desired audio file."
- Adds the following note to [Section 2.4.8.1, "Operating the V3 Zone Controller"](#): "If the Bypass DTMF setting is enabled, go to Step 4."

Contents

Chapter 1 Product Overview	1
1.1 How to Identify this Product	1
1.2 Product features	2
1.3 Supported	2
1.4 Product Specifications	2
Chapter 2 Implementing the VoIP V3 Zone Controller	3
2.1 Parts List	3
2.2 Typical Installation	4
2.3 Setting up the V3 Zone Controller	5
2.3.1 Cables Used for Connecting to Legacy Analog Amplifiers	5
2.3.2 Connect to the Power Source	5
Poe	5
Non-Poe	5
Chassis Ground	5
2.3.3 Connect to the Network	6
2.3.4 Confirm that the V3 Zone Controller is Up and Running	7
Confirm Power on, Network Connectivity, and Connection Speed	7
2.3.5 Restore the Factory Default Settings as Required	8
2.4 Configuring the V3 Zone Controller	9
2.4.1 Gather the Required Configuration Information	9
Static or DHCP Addressing?	9
Username and Password for Configuration GUI	9
SIP Settings	9
2.4.2 V3 Zone Controller Web Page Navigation	10
2.4.3 Log in to the Configuration GUI	11
2.4.4 Configure the Device Parameters	14
2.4.5 Configure the Network Parameters	16
2.4.6 Configure the SIP Parameters	18
Point-to-Point Configuration	21
2.4.7 Configure the Night Ringer Parameters	22
2.4.8 Configure the Zone Parameters	24
Operating the V3 Zone Controller	25
2.4.9 Configure the Audio Parameters	26
User-created Audio Files	29
2.4.10 Configure the Event Parameters	31
Example Packets for Events	33
2.4.11 Configure the Autoprovisioning Parameters	36
Autoprovisioning	38
2.5 Upgrading the Firmware	41
Upgrade the Firmware	42
Mounting the V3 Zone Controller	43
A.1 Mount the V3 Zone Controller	43
A.1.1 Mounting Components	43
A.1.2 Mounting Procedure	44
Appendix A Setting Up a TFTP Server	45
A.1 Set up a TFTP Server	45
A.1.1 In a LINUX Environment	45

A.1.2 In a Windows Environment	45
Appendix B Troubleshooting/Technical Support	46
B.1 Frequently Asked Questions (FAQ)	46
B.1.1 Documentation	46
B.2 Contact Information	47
B.3 Warranty	48
B.3.1 Warranty & RMA Returns within the United States	48
B.3.2 Warranty & RMA Returns Outside of the United States	48
B.3.3 Spare in the Air Policy	48
B.3.4 Return and Restocking Policy	49
B.3.5 Warranty and RMA Returns Page	49
Index	50

1 Product Overview

The CyberData VoIP V3 Zone Controller with Audio-Out enables access to existing paging speakers through a VoIP phone system. The interface is designed to use a standard paging amplifier with audio inputs and supports paging up to 15 zone groups from a VoIP phone.

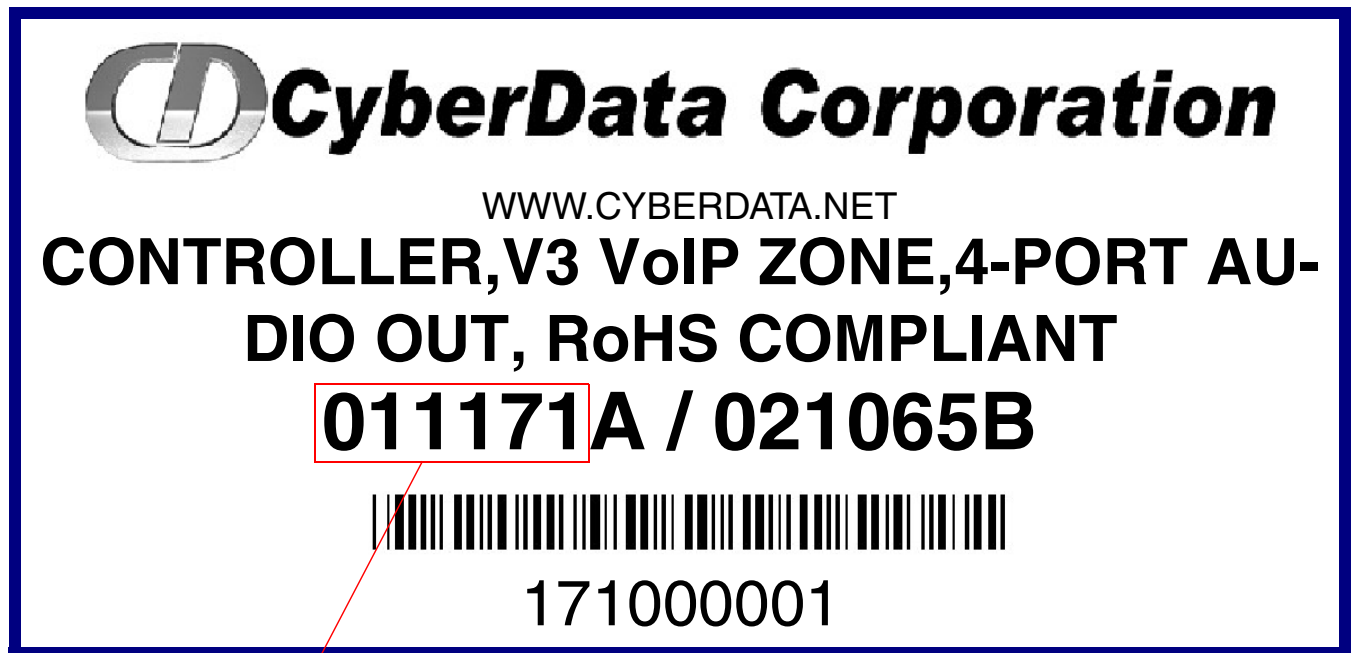
The V3 Zone Controller is a PoE-enabled, single SIP-endpoint, enabling user-defined paging zones through RCA line level output connections to legacy analog amplifiers to existing legacy analog speakers.

SIP compliant IP-PBX's can now interface with existing legacy analog paging speaker installations.

1.1 How to Identify this Product

To identify the VoIP Zone Controller, look for a model number label similar to the one shown in [Figure 1-1](#). The model number on the label should be **011171**.

Figure 1-1. Model Number Label



Model number

1.2 Product features

- Delayed paging
- Night Ringer
- Compatible with more IP/PBX servers
- SIP RFC 3261 compatible
- PoE 802.3af enabled (Power-over-ethernet)
- Dual-speed ethernet 10/100 Mbps
- 4 Paging zones
- 15 Paging zone groups
- Page all
- Web-based configuration
- Web-based firmware upgradeable
- Connector for external power supply
- Small footprint

1.3 Supported

- HTTP Web-based configuration
- Provides an intuitive GUI for easy system configuration and verification of speaker operations.
- DHCP Client
- TFTP Client
- Audio Codec
- G.711 U-law
- DTMF detection

1.4 Product Specifications

Specifications	
Regulatory Compliance	FCC Class A, UL 60950, CE
Power Requirement	PoE or 48V DC
Connection Speed	10/100 Mbps
Protocol	SIP compliant
Part Number	011171
Dimensions	6.11"L x 4.05"W x 1.15" H
Weight	1.2 pounds

2 Implementing the VoIP V3 Zone Controller

The topics in this chapter provide information on setting up, configuring, and using the VoIP Zone Controller.

2.1 Parts List

The packaging for the V3 Zone Controller includes the parts in this illustration.

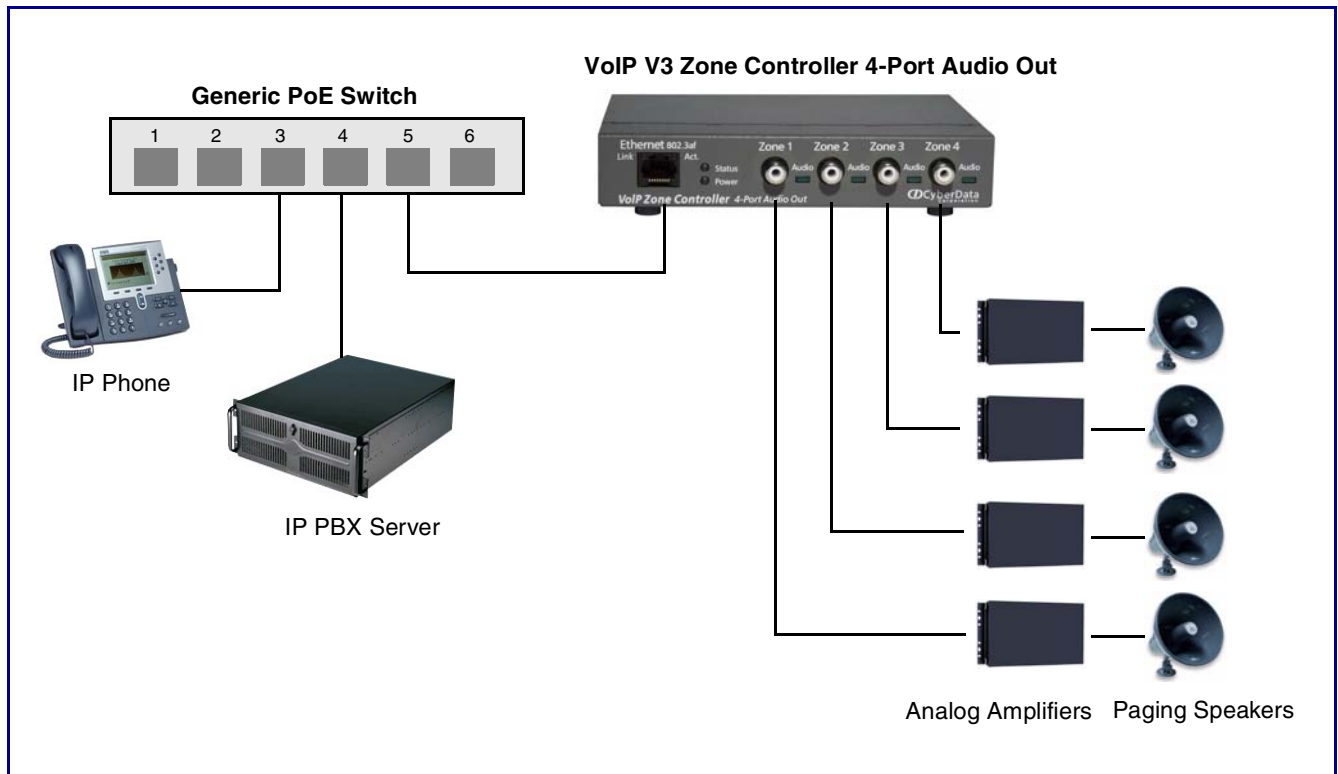
Table 2-1. Parts List

Quantity	Part Name	Illustration
1	VoIP V3 Zone Controller	
1	Installation Quick Reference Guide	
1	Mounting Kit	

2.2 Typical Installation

Figure 2-1 illustrates how the V3 Zone Controller is normally installed as part of a paging system.

Figure 2-1. Typical Installation



2.3 Setting up the V3 Zone Controller

Before you set up the V3 Zone Controller, be sure that you have received all the parts described in [Section 2.1, "Parts List"](#).

2.3.1 Cables Used for Connecting to Legacy Analog Amplifiers

The VoIP Zone Controller connects to zones through RCA line level output connections to legacy analog amplifiers to existing legacy analog speakers.

2.3.2 Connect to the Power Source

Figure 2-2. Connecting to the Power Source

PoE 	To set up the V3 Zone Controller, connect the device to your network: Poe For PoE, plug one end of an 802.3af Ethernet cable into the V3 Zone Controller Ethernet port. Plug the other end of the Ethernet cable into your network. See the figure on the left.
Non PoE (with 48 VDC power supply) 	Non-Poe For Non-PoE, connect the V3 Zone Controller to a 48VDC power supply. See the figure on the left.
Chassis Ground  Chassis Ground	Chassis Ground If required, connect the earth grounding wire to the Chassis Ground on the back of the unit. See the figure on the left.

2.3.3 Connect to the Network

Plug one end of a standard Ethernet cable into the V3 Zone Controller **Ethernet** port. Plug the other end into your network.

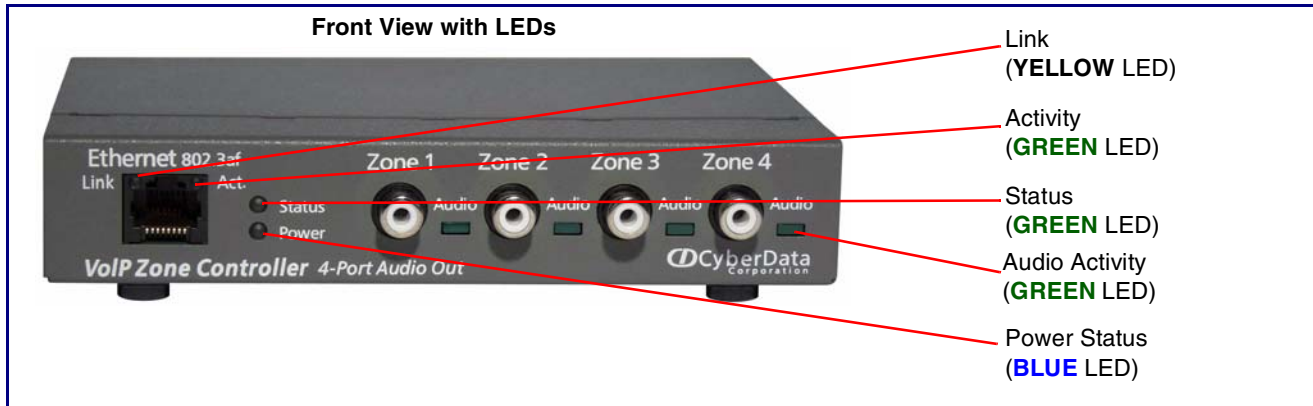
Figure 2-3. Connecting to the Network



2.3.4 Confirm that the V3 Zone Controller is Up and Running

The indicator LEDs on the front of the V3 Zone Controller verify the unit's operations.

Figure 2-4. V3 Zone Controller Indicator LEDs



2.3.4.1 Confirm Power on, Network Connectivity, and Connection Speed

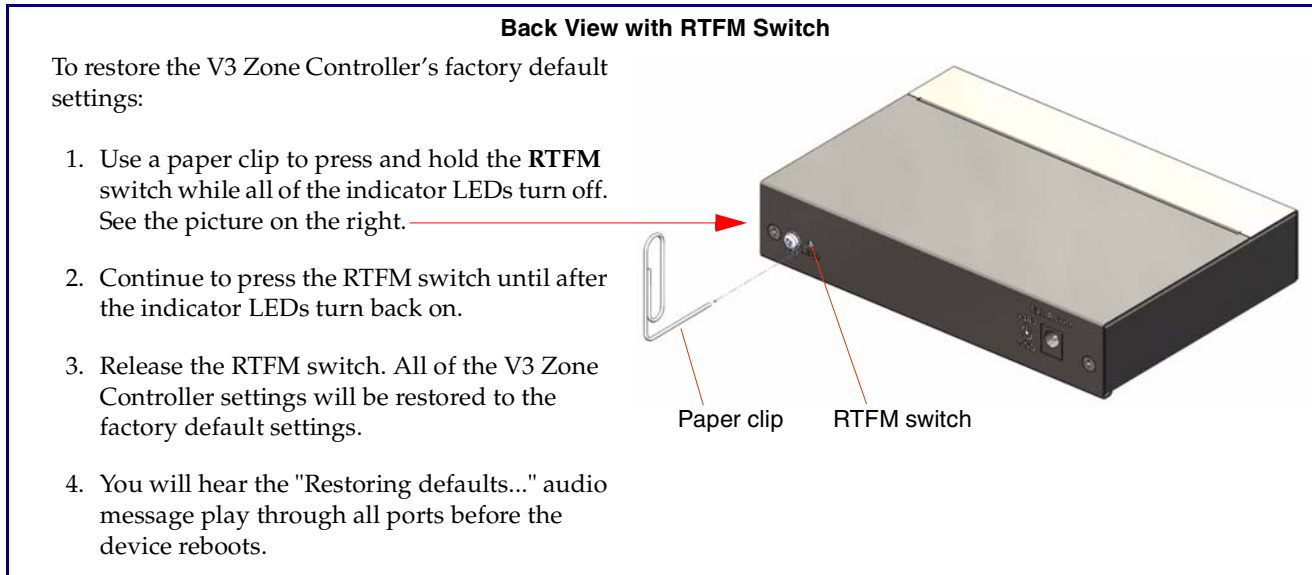
When you plug in the Ethernet cable or power supply:

- The round, **BLUE Power Status LED** on the front of the V3 Zone Controller comes on indicating that the power is on.
- The square, **YELLOW Link LED** above the Ethernet port indicates that the network connection has been established. The **Link LED** changes color to confirm the auto-negotiated connection speed:
 - This LED is **YELLOW** at 10 Mbps.
 - This LED is **ORANGE** at 100 Mbps.
- The square, **GREEN Activity LED** above the Ethernet port blinks when there is network activity.
- The round, **GREEN Status LED** comes on after the device is booted and initialized. This LED blinks when the unit is operational.
- The square, **GREEN Audio Activity LEDs** turn on solid when a Zone is being paged.

2.3.5 Restore the Factory Default Settings as Required

The V3 Zone Controller is delivered with factory set default values for the following parameters. Use the **RTFM** switch (see [Figure 2-5](#)) on the back of the unit to restore these parameters to the factory default settings.

Figure 2-5. RTFM Switch



Note When you perform this procedure, the factory default settings are restored for *all* the following parameters.

Parameter	Factory Default Setting
IP Addressing	static
IP Address	192.168.3.10
Subnet Mask	255.255.255.0
Default Gateway	192.168.3.1
Username	admin
Password	admin

2.4 Configuring the V3 Zone Controller

Use this section to configure the V3 Zone Controller.

2.4.1 Gather the Required Configuration Information

Have the following information available before you configure the V3 Zone Controller.

2.4.1.1 Static or DHCP Addressing?

Know whether your system uses static or dynamic (DHCP) IP addressing. If it uses static addressing, you also need to know the values to assign to the following V3 Zone Controller parameters:

- IP Address
- Subnet Mask
- Default Gateway

2.4.1.2 Username and Password for Configuration GUI

Determine the Username and Password that will replace the defaults after you initially log in to the configuration GUI.

- The Username is case-sensitive, and must be from four to 25 alphanumeric characters long.
- The Password is case-sensitive, and must be from four to 20 alphanumeric characters long.

2.4.1.3 SIP Settings

To configure the SIP parameters, determine whether you want to register the V3 Zone Controller. If you do, determine the number of minutes the registration lease remains valid, and whether you want to automatically unregister when you reboot. To configure the SIP parameters, you also need to determine the values for these parameters:

- SIP Server IP Address
- Remote and Local SIP Port Numbers
- SIP User ID, and Authenticate ID and Password for this User ID

2.4.2 V3 Zone Controller Web Page Navigation

Table 2-1 shows the navigation buttons that you will see on every V3 Zone Controller web page.

Table 2-1. V3 Paging Amplifier Web Page Navigation

Web Page Item	Description
	Link to the Home page.
	Link to the Device Configuration page.
	Link to the Networking page.
	Link to go to the SIP Configuration page.
	Link to the Multicast Configuration page.
	Link to go to the Nightringer page.
	Link to go to the Zone Configuration page.
	Link to the Audio Configuration page.
	Link to the Event Configuration page.
	Link to the Autoprovisioning Configuration page.
	Link to the Update Firmware page.

2.4.3 Log in to the Configuration GUI

1. Open your browser to the V3 Zone Controller IP address.

Note If the network does not have access to a DHCP server, the device will default to an IP address of 10.10.10.10.

Note Make sure that the PC is on the same IP network as the V3 Zone Controller.

Note You may also download CyberData's VoIP Discovery Utility program which allows you to easily find and configure the default web address of the CyberData VoIP products.

CyberData's VoIP Discovery Utility program is available at the following website address:

http://www.cyberdata.net/support/voip/discovery_utility.html

The unit ships in DHCP mode. To get to the **Home** page, use the discovery utility to scan for the device on the network and open your browser from there.

Note To work with the V3 Zone Controller configuration *after* the initial configuration, log in using the IP address you assign to the device. [Section 2.4.5, "Configure the Network Parameters"](#) provides instructions for entering the IP address.

2. When prompted, use the following default **Username** and **Password** to open the configuration Home page:

Username: **admin**

Password: **admin**

Change the
Default Username
and Password

To change the default Web access Username and Password:

1. Enter the new Username from four to 25 alphanumeric characters in the **Change Username** field. The Username is case-sensitive.
2. Enter the new Password from four to 20 alphanumeric characters in the **Change Password** field. The Password is case-sensitive.
3. Enter the new password again in the **Re-enter New Password** field.

Click **Save Settings**.

Figure 2-6. Home Page

CyberData 4-Port Zone Controller

Home
Device Config
Networking
SIP Config
Multicast Config
Nightringer
Zone Config
Audio Config
Event Config
Autoprovisioning
Update Firmware

Device Settings

Device Name: CyberData Four Port

Change Username: admin

Change Password:

Re-enter Password:

Current Settings

Serial Number: 145000001
Mac Address: 00:20:f7:00:8c:48
Firmware Version: v6.0.0

IP Addressing: dhcp
IP Address: 10.10.1.181
Subnet Mask: 255.0.0.0
Default Gateway: 10.0.0.1
DNS Server 1: 8.8.8.8
DNS Server 2:

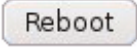
SIP Mode is: enabled (NOT Registered with SIP Server)
Event Reporting is: disabled
Nightringer is: disabled (NOT Registered with SIP Server)

* You need to reboot for changes to take effect

Save Reboot

4. On the **Home Page**, review the setup details and navigation buttons described in [Table 2-2](#).

Table 2-2. Home Page Overview

Web Page Item	Description
Device Settings	
Device Name	Shows the device name (25 character limit).
Change Username	Type in this field to change the username (25 character limit).
Change Password	Type in this field to change the password (19 character limit).
Re-enter Password	Type the password again in this field to confirm the new password (19 character limit).
Current Settings	
Serial Number	Shows the device serial number.
Mac Address	Shows the device Mac address.
Firmware Version	Shows the current firmware version.
IP Addressing	Shows the current IP addressing setting (DHCP or Static).
IP Address	Shows the current IP address.
Subnet Mask	Shows the current subnet mask address.
Default Gateway	Shows the current default gateway address.
DNS Server 1	Shows the current DNS Server 1 address.
DNS Server 2	Shows the current DNS Server 2 address.
SIP Mode is	Shows the current status of the SIP Mode.
Event Reporting is	Shows the current status of the Event Reporting.
Nightring is	Shows the current status of the Nightringer.
	Click the Save button to save your configuration settings. Note: You need to reboot for changes to take effect.
	Click on the Reboot button to reboot the system.

At this point you can:

- Review the V3 Zone Controller's **Current Settings**. Use the RTFM switch to restore the factory default settings. See [Section 2.3.5, "Restore the Factory Default Settings as Required"](#).
- Configure the network parameters. Click the **Networking** button and refer to [Section 2.4.5, "Configure the Network Parameters"](#) for instructions.
- Configure the SIP parameters. Click **SIP Config** and see [Section 2.4.6, "Configure the SIP Parameters"](#).
- Configure the Zone parameters. Click **Zone Config** and see [Section 2.4.8, "Configure the Zone Parameters"](#) for instructions.

Note Click the **Upgrade Firmware** button any time you need to upload new versions of the firmware. Refer to [Section 2.5, "Upgrading the Firmware"](#) for instructions.

2.4.4 Configure the Device Parameters

1. Click the **Device Configuration** button to open the **Device Configuration** page. See [Figure 2-7](#).

Figure 2-7. Device Configuration Page

The screenshot shows the 'Device Configuration' page for a 'CyberData 4-Port Zone Controller'. On the left is a vertical menu with buttons: Home, Device Config (highlighted), Networking, SIP Config, Multicast Config, Nightringer, Zone Config, Audio Config, Event Config, Autoprovisioning, and Update Firmware. The main content area is titled 'Device Configuration' and contains two sections. The 'Miscellaneous Settings' section has two checked checkboxes: 'Beep on Initialization:' and 'Beep on page:'. The 'Test Audio' section has four checkboxes labeled 'Port 1', 'Port 2', 'Port 3', and 'Port 4', all of which are unchecked, and a 'Test Audio' button below them. At the bottom, a note states '* You need to reboot for changes to take effect', followed by 'Save' and 'Reboot' buttons.

CyberData 4-Port Zone Controller

Device Configuration

Home Device Config Networking SIP Config Multicast Config Nightringer Zone Config Audio Config Event Config Autoprovisioning Update Firmware

Miscellaneous Settings

Beep on Initialization: ☒

Beep on page: ☒

Test Audio

Port 1 Port 2 Port 3 Port 4

☐ ☐ ☐ ☐

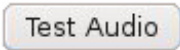
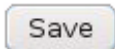
Test Audio

* You need to reboot for changes to take effect

Save Reboot

2. On the **Device Configuration** page, you may enter values for the parameters indicated in [Table 2-3](#).

Table 2-3. Device Configuration Parameters

Web Page Item	Description
Miscellaneous Settings	
Beep on Initialization	When selected, you will hear a beep when the speaker initializes.
Beep on Page	When selected, you will hear a beep when a page is sent from the device.
Test Audio	
Port 1 through Port 4	Select the desired port(s) for the audio test.
	Click on the Test Audio button to do an audio test. When the Test Audio button is pressed, you will hear a voice message for testing the device audio quality and volume.
	Click the Save button to save your configuration settings. Note: You need to reboot for changes to take effect.
	Click on the Reboot button to reboot the system.

3. After changing the parameters, click the **Save** button.

2.4.5 Configure the Network Parameters

Configuring the network parameters enables your network to recognize the V3 Zone Controller and communicate with it. Click **Network Setup** on the Home page to open the **Network Configuration** page.

Figure 2-8. Network Setup Page

CyberData 4-Port Zone Controller

Network Configuration

Home
Device Config
Networking
SIP Config
Multicast Config
Nightringer
Zone Config
Audio Config
Event Config
Autoprovisioning
Update Firmware

Stored Network Settings

IP Addressing: ☐ Static ☒ DHCP

IP Address: 10.10.10.10

Subnet Mask: 255.0.0.0

Default Gateway: 10.0.0.1

DNS Server 1: 10.0.0.1

DNS Server 2: 10.0.0.1

Current Network Settings

IP Address: 10.10.1.181

Subnet Mask: 255.0.0.0

Default Gateway: 10.0.0.1

DNS Server 1: 8.8.8.8

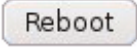
DNS Server 2:

* You need to reboot for changes to take effect

Save Reboot

On the **Network Setup** page, enter values for the parameters indicated in [Table 2-4](#).

Table 2-4. Network Configuration Parameters

Web Page Item	Description
Stored Network Settings	Shows the settings stored in non-volatile memory.
IP Addressing	Select either DHCP IP Addressing or Static IP Addressing by marking the appropriate radio button. If you select Static , configure the remaining parameters indicated in Table 2-4 . If you select DHCP , go to Step 3 .
IP Address	Enter the Static IP address.
Subnet Mask	Enter the Subnet Mask address.
Default Gateway	Enter the Default Gateway address.
DNS Server 1	Enter the DNS Server 1 address.
DNS Server 2	Enter the DNS Server 2 address.
Current Network Settings	Shows the current network settings.
IP Address	Shows the current Static IP address.
Subnet Mask	Shows the current Subnet Mask address.
Default Gateway	Shows the current Default Gateway address.
DNS Server 1	Shows the current DNS Server 1 address.
DNS Server 2	Shows the current DNS Server 2 address.
	Click the Save button to save your configuration settings. Note: You need to reboot for changes to take effect.
	Click on the Reboot button to reboot the system.

On this page:

1. Specify whether you use **Static** or **DHCP IP Addressing** by marking the appropriate radio button. Then, if you select Static, go to [Step 2](#).
2. For Static IP Addressing, also enter values for the following parameters:
 - The V3 Zone Controller's **IP Address**: The V3 Zone Controller is delivered with a factory default IP address. Change the default address to the correct IP address for your system.
 - The **Subnet Mask**.
 - The **Default Gateway**.
3. Click **Save** when you are finished.
4. Click **Reboot** for the new settings to take effect.

2.4.6 Configure the SIP Parameters

The SIP parameters enable the V3 Zone Controller to contact and register with the SIP server. On the Home page, click **SIP Config** to open the **SIP Configuration** page.

Figure 2-9. SIP Configuration Page

CyberData 4-Port Zone Controller

SIP Configuration

Enable SIP operation: ☒ (NOT Registered with SIP Server)

SIP Settings

SIP Server: 10.0.0.253

Remote SIP Port: 5060

Local SIP Port: 5060

Outbound Proxy:

Outbound Proxy Port: 0

SIP User ID: 199

Authenticate ID: 199

Authenticate Password: ext199

Register with a SIP Server: ☒

Re-registration Interval (in seconds): 360

Unregister on Reboot: ☐

Buffer SIP Calls: ☐

* You need to reboot for changes to take effect

Save Reboot

5. On the **SIP Setup** page, enter values for the parameters indicated in [Table 2-5](#).

Table 2-5. SIP Configuration Parameters

Web Page Item	Description
SIP Settings	
SIP Server	Type the SIP server represented as either a numeric IP address in dotted decimal notation or the fully qualified host name (255 character limit [FQDN]).
Remote SIP Port	Type the Remote SIP Port number (default 5060) (8 character limit).
Local SIP Port	Type the Local SIP Port number (default 5060) (8 character limit).
Outbound Proxy	Type the Outbound Proxy as either a numeric IP address in dotted decimal notation or the fully qualified host name (255 character limit [FQDN]).
Outbound Proxy Port	Type the Outbound Proxy Port number (8 character limit).
SIP User ID	Type the SIP User ID (up to 64 alphanumeric characters).
Authenticate ID	Type the Authenticate ID (up to 64 alphanumeric characters).
Authenticate Password	Type the Authenticate Password (up to 64 alphanumeric characters).
Register with a SIP Server	Enable or disable SIP Registration. For information about Point-to-Point Configuration, see Section 2.4.6.1, "Point-to-Point Configuration" .
Re-registration Interval (in seconds)	Type the SIP Registration lease time in seconds (default is 60 minutes) (8 character limit). Re-registration Interval (in seconds)
Unregister on Reboot	When selected, on boot, the device will first register with a SIP server with a expiration delay of 0 seconds. This has the effect of unregistering any current devices on this extension.
Buffer SIP Calls	When this is enabled, SIP calls to the device will be stored in memory and will play when either the call is terminated or the buffer is full. The receive buffer is 2MB in size and this is equal to about four minutes of ulaw encoded audio.
	Click the Save button to save your configuration settings. Note: You need to reboot for changes to take effect.
	Click on the Reboot button to reboot the system.

1. Enter the IP address of the **SIP Server**.
2. Enter the port numbers used for SIP signaling:
 - a. **Remote SIP Port**
 - b. **Local SIP Port**

3. Enter the SIP registration parameters:
 - a. **SIP User ID**
 - b. **Authenticate ID**
 - c. **Authenticate Password**
4. For **SIP Registration**, designate whether you want the device to register with your SIP server.
5. At **Unregister on Reboot**:
 - a. Select **Yes** to automatically unregister the V3 Zone Controller when you reboot it.
 - b. Select **No** to keep the V3 Zone Controller registered when you reboot it.
6. In the **Register Expiration** field, enter the number of seconds the V3 Zone Controller registration lease remains valid with the SIP Server. The V3 Zone Controller automatically re-registers with the SIP server before the lease expiration timeout.
7. Click **Save**.
8. Click **Reboot** for the new settings to take effect.

2.4.6.1 Point-to-Point Configuration

When the board is set to not register with a SIP server, it's possible to set the device to dial out to a single endpoint. To do this, do the following:

1. On the **SIP Configuration** page (Figure 2-10), make sure that the **Register with a SIP Server** parameter is not selected.
2. Type the IP address of the remote device that you want to contact into the **Dial out Extension** field

Note The delayed DTMF functionality is available in the Point-to-Point Mode.

Note Establishing point-to-point SIP calls may not work with all phones.

Figure 2-10. SIP Configuration Page Set to Point-to-Point Mode

CyberData 4-Port Zone Controller

SIP Configuration

Home | Device Config | Networking | **SIP Config** | Multicast Config | Nightringer | Zone Config | Audio Config | Event Config | Autoprovisioning | Update Firmware

Enable SIP operation: ☒ (NOT Registered with SIP Server)

SIP Settings

SIP Server:	10.0.0.253
Remote SIP Port:	5060
Local SIP Port:	5060
Outbound Proxy:	
Outbound Proxy Port:	0
SIP User ID:	199
Authenticate ID:	199
Authenticate Password:	ext199

Register with a SIP Server: ☐

Re-registration Interval (in seconds): 360

Unregister on Reboot: ☐

Buffer SIP Calls: ☐

* You need to reboot for changes to take effect

Save Reboot

Device is set to **NOT** register with a SIP server

2.4.7 Configure the Night Ringer Parameters

1. Click on the **Nightringer** button to open the **Nightringer Configuration** page. See [Figure 2-11](#).

Figure 2-11. Nightringer Configuration Setup

CyberData 4-Port Zone Controller

Nightringer Configuration

Enable Nightringer: ☐ (NOT Registered with SIP Server)

Nightringer Settings

SIP Server: 10.0.0.253

Remote SIP Port: 5060

Local SIP Port: 5061

User ID: 241

Authenticate ID: 241

Authenticate Password: ext241

Re-registration Interval (in seconds): 360

Play audio on ports:

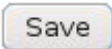
Port 1 Port 2 Port 3 Port 4

☒ ☐ ☐ ☐

* You need to reboot for changes to take effect

2. On the **Nightringer Configuration** page, enter values for the parameters indicated in [Table 2-6](#).

Table 2-6. Nightringer Configuration Parameters

Web Page Item	Description
Enable Nightringer	When the nightringer is enabled, the unit will attempt to register a second extension with the SIP server. Any calls made to this extension will play a ringtone.
Nightringer Settings	
SIP Server	Type the SIP server represented as either a numeric IP address in dotted decimal notation.
Remote SIP Port	Type the Remote SIP Port number (default 5060) (8 character limit).
Local SIP Port	Type the Local SIP Port number (default 5061) (8 character limit). Note: This value cannot be the same as the Local SIP Port found on the SIP Configuration Page .
User ID	Type the User ID (up to 64 alphanumeric characters).
Authenticate ID	Type the Authenticate ID (up to 64 alphanumeric characters).
Authenticate Password	Type the Authenticate Password (up to 64 alphanumeric characters).
Re-registration Interval (in seconds)	Type the SIP Registration lease time in seconds (default is 60 minutes) (8 character limit). Re-registration Interval (in seconds)
Play audio on ports	When selected, a user-defined audio file is sent to the specified port(s) when the night ringer is activated. Note: Nightringer will be preempted by SIP calls, and SIP calls will be preempted by an emergency multicast. For example: • If there is a night ring playing on ports 1 and 3, a SIP call on ports 2 and 4 will cause preemption. Ports 1 and 3 will then go silent, and the SIP call is paged to ports 2 and 4. • An emergency multicast causes preemption on all ports, and all ports will play the emergency multicast. If the emergency multicast stops, then the SIP call becomes active. Ports 1 and 3 will then go silent, and the SIP call continues paging on ports 2 and 4. If the SIP call stops, then the Nightringer becomes active. Ports 2 and 4 will go silent and ports 1 and 3 will play the night ring.
	Click the Save button to save your configuration settings. Note: You need to reboot for changes to take effect.
	Click on the Reboot button to reboot the system.

3. After changing the parameters, click on the **Save** button.
4. Click **Reboot** for the new settings to take effect.

2.4.8 Configure the Zone Parameters

- Each audio output jack on the VoIP Zone Controller represents a **Zone**.
 - A **Group** is comprised of a combination of one or more Zones.
 - You will need to plug any Zones that are used on the V3 Zone Controller into an analog amplifier. Any speakers attached to the amplifier will be present in the Zone.
1. Click on the **Zone Config** button to open the **Zone Configuration** page. See [Figure 2-12](#).

Figure 2-12. Zone Configuration Setup

CyberData 4-Port Zone Controller

Zone Configuration

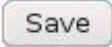
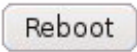
Bypass DTMF ☐
Bypassing DTMF will result in all calls being played to Zone 0

#	Port 1	Port 2	Port 3	Port 4
00	☒	☒	☒	☒
01	☒	☐	☐	☐
02	☐	☒	☐	☐
03	☐	☐	☒	☐
04	☐	☐	☐	☒
05	☒	☒	☐	☐
06	☒	☐	☒	☐
07	☐	☒	☒	☐
08	☒	☒	☒	☐
09	☒	☐	☐	☒
10	☐	☒	☐	☒
11	☒	☒	☐	☒
12	☐	☐	☒	☒
13	☒	☐	☒	☒
14	☐	☒	☒	☒

* You need to reboot for changes to take effect

2. On the **Zone Configuration** page, enter values for the parameters indicated in [Table 2-7](#).

Table 2-7. Zone Configuration Parameters

Web Page Item	Description
Zones	
Bypass DTMF	When selected, the ports in Zone 00 will be paged without waiting for DTMF entry.
Port 1 through Port 4 Checkboxes	Check the box for the port(s) that comprise the zone.
	Click the Save button to save your configuration settings. Note: You need to reboot for changes to take effect.
	Click on the Reboot button to reboot the system.

3. After changing the parameters, click on the **Save** button.
4. Click **Reboot** for the new settings to take effect.

2.4.8.1 Operating the V3 Zone Controller

To operate the V3 Zone Controller:

1. Call to make a page. The V3 Zone Controller will generate a tone over the phone.
2. When you hear this tone, enter the two-digit code for the group that you want to page.

Note If the **Bypass DTMF** setting is enabled, go to [Step 4](#).
3. If the zone is valid, the V3 Zone Controller will play the user-defined "good zone" sound. Go to [Step 4](#).

Note If the zone is invalid, the V3 Zone Controller will play the user-defined "bad zone" sound. Repeat [Step 2](#).
4. When you hear the "good zone" tone, you can begin speaking.

2.4.9 Configure the Audio Parameters

Click the **Audio Config** button to open the **Audio Configuration** page. See [Figure 2-13](#). The **Audio Configuration** page is used to add custom audio to the board. User uploaded audio will take precedence over the audio files shipped with the V3 Zone Controller.

Figure 2-13. Audio Configuration Page

CyberData 4-Port Zone Controller

Audio Configuration

Available Space = 14.75MB

Audio Files

0: Currently set to default
New File:

1: Currently set to default
New File:

2: Currently set to default
New File:

3: Currently set to default
New File:

4: Currently set to default
New File:

5: Currently set to default
New File:

6: Currently set to default
New File:

7: Currently set to default
New File:

8: Currently set to default
New File:

Figure 2-14. Audio Configuration Page

The screenshot displays the 'Audio Configuration Page' with a light blue background. It features several sections for configuring audio files:

- 9:** Currently set to default. Includes a 'New File:' text box, a 'Browse...' button, and 'Play', 'Delete', and 'Save' buttons.
- Dot:** Currently set to default. Includes a 'New File:' text box, a 'Browse...' button, and 'Play', 'Delete', and 'Save' buttons.
- Audio test:** Currently set to default. Includes a 'New File:' text box, a 'Browse...' button, and 'Play', 'Delete', and 'Save' buttons.
- Page tone:** Currently set to default. Includes a 'New File:' text box, a 'Browse...' button, and 'Play', 'Delete', and 'Save' buttons.
- Invalid Zone:** Currently set to default. Includes a 'New File:' text box, a 'Browse...' button, and 'Play', 'Delete', and 'Save' buttons.
- Your IP Address is:** Currently set to default. Includes a 'New File:' text box, a 'Browse...' button, and 'Play', 'Delete', and 'Save' buttons.
- Rebooting:** Currently set to default. Includes a 'New File:' text box, a 'Browse...' button, and 'Play', 'Delete', and 'Save' buttons.
- Restoring Default:** Currently set to default. Includes a 'New File:' text box, a 'Browse...' button, and 'Play', 'Delete', and 'Save' buttons.
- Night Ring:** Currently set to default. Includes a 'New File:' text box, a 'Browse...' button, and 'Play', 'Delete', and 'Save' buttons.

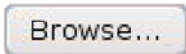
At the bottom, there is a section titled 'Ports to play test audio' containing four checkboxes labeled 'Port 1', 'Port 2', 'Port 3', and 'Port 4'.

Note To test an audio file, first select the ports (located at the bottom of the [Audio Configuration Page](#)) that you want to play the audio file to, and then press the **Play** button for the desired audio file.

On the **Audio Configuration** page, enter values for the parameters indicated in [Table 2-8](#).

Note Each entry on the **Audio Configuration** page replaces one of the stock audio files on the board. When the input box displays the word **default**, the V3 Zone Controller is using the stock audio file. If that file is replaced with a user file, it will display the uploaded filename.

Table 2-8. Audio Configuration Parameters

Web Page Item	Description
Audio Files	
0-9	The name of the audio configuration option is the same as the spoken audio that plays on the board (24 character limit). '0' corresponds to the spoken word "zero." '1' corresponds to the spoken word "one." '2' corresponds to the spoken word "two." '3' corresponds to the spoken word "three." '4' corresponds to the spoken word "four." '5' corresponds to the spoken word "five." '6' corresponds to the spoken word "six." '7' corresponds to the spoken word "seven." '8' corresponds to the spoken word "eight." '9' corresponds to the spoken word "nine."
Dot	Corresponds to the spoken word "dot." (24 character limit).
Audiotest	Corresponds to the message "This is the CyberData IP speaker test message..." (24 character limit).
Pagetone	Corresponds to a simple tone that is unused by default (24 character limit).
Invalid Zone	Corresponds to the message "Invalid Zone" (24 character limit).
Your IP Address is	Corresponds to the message "Your IP address is..." (24 character limit).
Rebooting	Corresponds to the spoken word "Rebooting" (24 character limit).
Restoring default	Corresponds to the message "Restoring default" (24 character limit).
Night Ring	Specifies the ringtone for nightring. By default this parameter uses the same audio file that is selected for the Ring Tone parameter.
Ports to play test audio	
Port 1 through Port 4	Select the desired port(s) for the audio test.
	The Browse button will allow you to navigate to and select an audio file.
	The Play button will play that audio file.
	The Delete button will delete any user uploaded audio and restore the stock audio file.
	The Save button will download a new user audio file to the board once you've selected the file by using the Browse button. The Save button will delete any pre-existing user-uploaded audio files.

2.4.9.1 User-created Audio Files

User created audio files should be saved in the following format:

RIFF (little-endian) data, WAVE audio, Microsoft PCM, 16 bit, mono 8000 Hz

You can use the free utility *Audacity* to convert audio files into this format. See [Figure 2-15](#) through [Figure 2-17](#).

Figure 2-15. Audacity 1

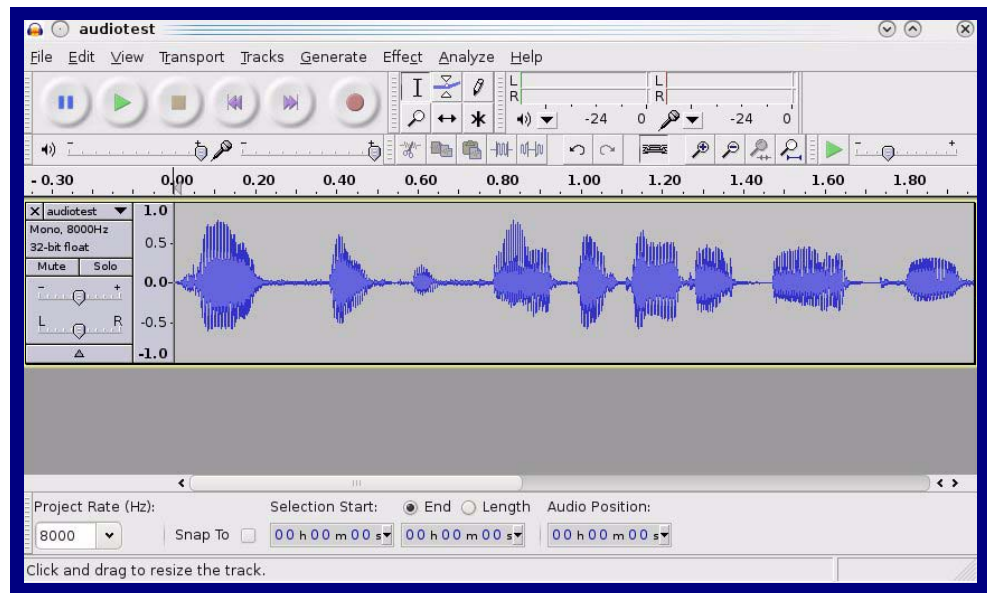
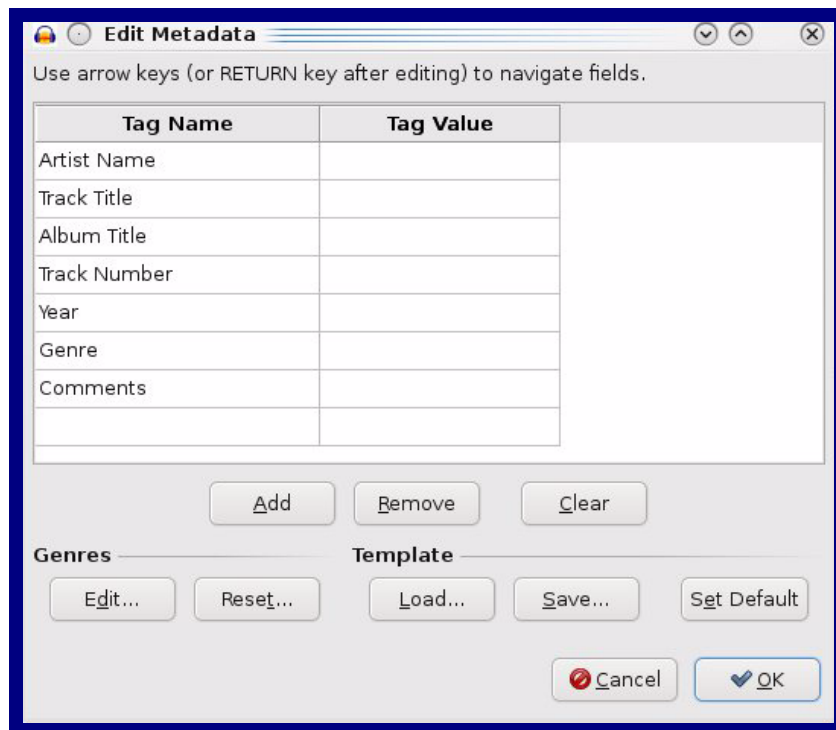


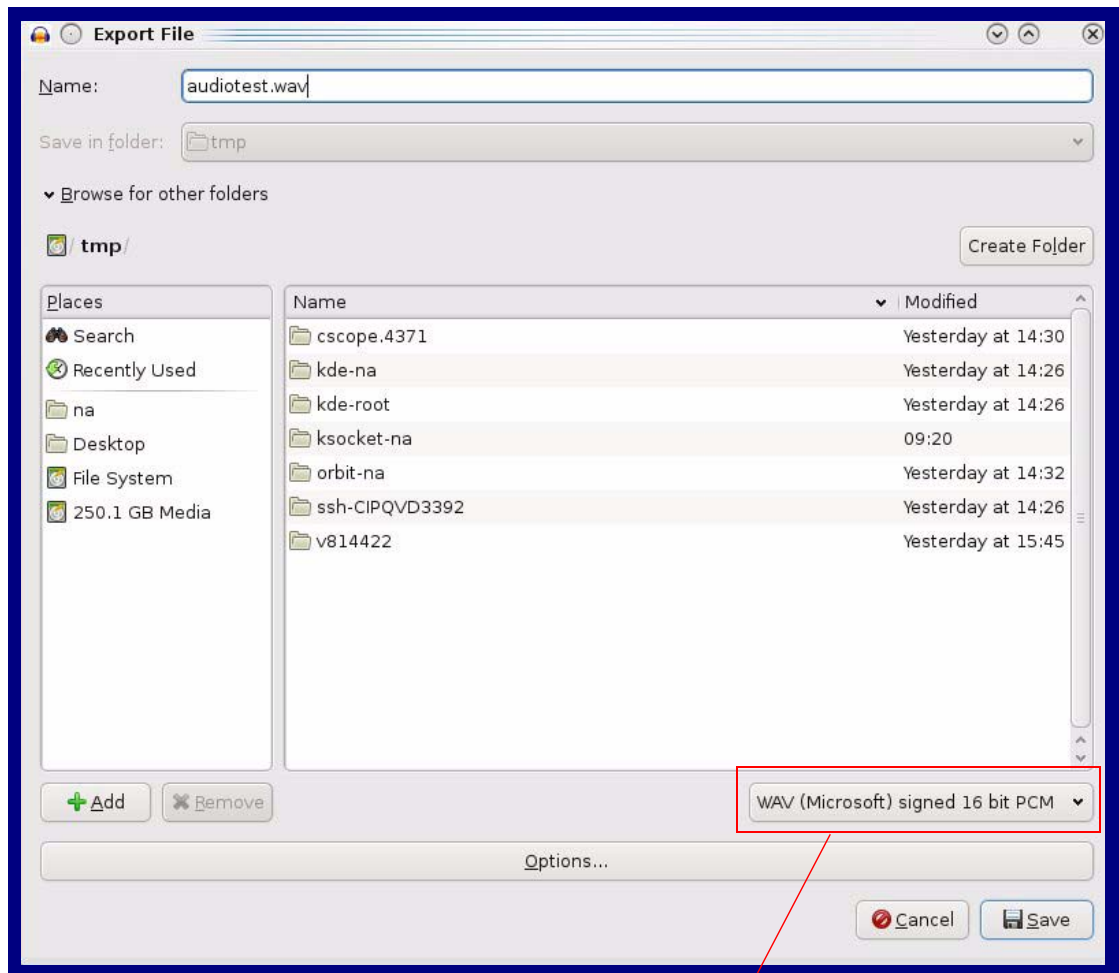
Figure 2-16. Audacity 2



When you export an audio file with Audacity, save the output as:

- **WAV (Microsoft) signed 16 bit PCM.**

Figure 2-17. WAV (Microsoft) signed 16 bit PCM



WAV (Microsoft) signed 16 bit PCM

2.4.10 Configure the Event Parameters

Click the **Event Config** button to open the **Event Configuration** page (Figure 2-18). The **Event Configuration** page specifies a remote server that can be used to receive HTTP POST events when actions take place on the board.

Figure 2-18. Event Configuration Page

CyberData 4-Port Zone Controller

Event Configuration

Enable Event Generation: ☐

Remote Event Server

Remote Event Server IP: 10.0.0.250

Remote Event Server Port: 8080

Remote Event Server URL: xmlparse_engine

Events

Enable Call Active Events: ☐

Enable Call Terminated Events: ☐

Enable Night Ring Events: ☐

Enable Power on Events: ☐

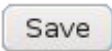
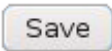
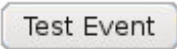
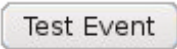
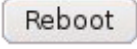
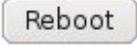
Enable 60 second Heartbeat Events: ☐

* You need to reboot for changes to take effect

Save Test Event Reboot

Table 2-9 shows the web page items on the **Event Configuration** page.

Table 2-9. Event Configuration

Enable Event Generation	When selected, Event Generation is enabled.
Remote Event Server IP	Type the Remote Event Server IP address. (64 character limit)
Remote Event Server Port	Type the Remote Event Server port number. (8 character limit)
Remote Event Server URL	Type the Remote Event Server URL. (127 character limit)
Enable Call Active Events	When selected, Call Active Events are enabled.
Enable Call Terminated Events	When selected, Call Terminated Events are enabled.
Enable Night Ring Events	When selected, there is a notification when the unit receives a night ring.
Enable Power On Events	When selected, Power On Events are enabled.
Enable 60 Second Heartbeat Events	When selected, 60 Second Heartbeat Events are enabled.
	Click the  button to save your configuration settings. : You need to reboot for changes to take effect.
	Click on the  button to test an event.
	Click on the  button to reboot the system.

2.4.10.1 Example Packets for Events

The server and port are used to point to the listening server and the 'Remote Event Server URL' is the destination URL (typically the script running on the remote server that's used to parse and process the POST events).

Note The XML is URL-encoded before transmission so the following examples are not completely accurate.

Here are example packets for every event:

```
POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 197
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>POWERON</event>
</cyberdata>
```

```
POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 199
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>HEARTBEAT</event>
</cyberdata>
```

```
POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 196
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>BUTTON</event>
</cyberdata>
```

```
POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 201
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>CALL_ACTIVE</event>
</cyberdata>
POST xmlparse_engine HTTP/1.1
```

```
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 205
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>CALL_TERMINATED</event>
</cyberdata>

POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 197
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>RINGING</event>
</cyberdata>

POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 234
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>MULTICAST_START</event>
<index>8</index>
</cyberdata>

POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 233
Content-Type: application/x-www-form-urlencoded

<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>MULTICAST_STOP</event>
<index>8</index>
</cyberdata>

POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 234
Content-Type: application/x-www-form-urlencoded
<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>RELAY_ACTIVATED</event>
</cyberdata>
POST xmlparse_engine HTTP/1.1
```

```
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 234
Content-Type: application/x-www-form-urlencoded
<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>RELAY_DEACTIVATED</event>
</cyberdata>
```

```
POST xmlparse_engine HTTP/1.1
Host: 10.0.3.79
User-Agent: CyberData/1.0.0
Content-Length: 234
Content-Type: application/x-www-form-urlencoded
<?xml version="1.0" encoding="ISO-8859-1"?>
<cyberdata NAME='CyberData VoIP Device' MAC='0020f70015b6'>
<event>NIGHTRINGING</event>
</cyberdata>
```

2.4.11 Configure the Autoprovisioning Parameters

1. Click the **Autoprovisioning** button to open the **Autoprovisioning Configuration** page.
See [Figure 2-19](#).

Figure 2-19. Autoprovisioning Configuration Page

The screenshot shows the 'Autoprovisioning' configuration page for a 'CyberData 4-Port Zone Controller'. On the left is a vertical menu with buttons for 'Home', 'Device Config', 'Networking', 'SIP Config', 'Multicast Config', 'Nightringer', 'Zone Config', 'Audio Config', 'Event Config', 'Autoprovisioning' (which is highlighted), and 'Update Firmware'. The main area is titled 'Autoprovisioning' and contains a form with the following fields:

- 'Enable Autoprovisioning:' with an unchecked checkbox.
- 'Get Autoprovisioning from DHCP:' with a checked checkbox.
- 'Autoprovisioning Server (IP Address):' with a text input field containing '10.0.0.254'.
- 'Autoprovisioning autoupdate (in minutes):' with a text input field containing '1440'.

Below the form, there are two asterisked notes:

- * Autoprovisioning file name: 0020f7008c48.config
- * You need to reboot for changes to take effect

At the bottom of the form area are two buttons: 'Save' and 'Reboot'.

2. On the **Autoprovisioning Configuration** page, you may enter values for the parameters indicated in [Table 2-10](#).

Table 2-10. Autoprovisioning Configuration Parameters

Enable Autoprovisioning	See Section 2.4.11.1, "Autoprovisioning" .
Get Autoprovisioning from DHCP	See Section 2.4.11.1, "Autoprovisioning" .
Autoprovisioning Server (IP Address)	See Section 2.4.11.1, "Autoprovisioning" (15 character limit).
Autoprovisioning Autoupdate (in minutes)	Type the desired time (in minutes) that you want the Autoprovisioning feature to update (6 character limit).
Autoprovisioning file name	Displays the Autoprovisioning file name.
	Click the button to save your configuration settings. : You need to reboot for changes to take effect.
	Click on the button to reboot the system.

3. After changing the parameters, click the **Save** button.

2.4.11.1 Autoprovisioning

Enable Autoprovisioning Option	With autoprovisioning enabled, the board will get its configuration from a remote TFTP server on startup or periodically on a scheduled delay. Autoprovisioned values will override values stored in on-board memory and will be visible on the web page. The board gets its autoprovisioning information from an XML-formatted file hosted from a TFTP server. CyberData will provide a template for this XML file and the user can modify it for their own use. To use autoprovisioning, create a copy of the autoprovisioning template with the desired settings and name this file with the mac address of the device to configure (for example: 0020f7350058.config). Put this file into your TFTP server directory and manually set the TFTP server address on the board. It is not necessary to set every option found in the autoprovisioning template. As long as the XML is valid, the file can contain any subset. Options not autoprovisioned will default to the values stored in the on board memory. For example if you only wanted to modify the device name, the following would be a valid autoprovisioning file: <pre><?xml version="1.0" encoding="utf-8" ?> <specific> <MiscSettings> <DeviceName>auto V3 Zone Controller</DeviceName> </MiscSettings> </specific></pre>
Networking	The board will only apply networking settings or firmware upgrades after a reboot.
Get Autoprovisioning from DHCP	When this option is checked, the device will automatically fetch its autoprovisioning server address from the DHCP server. The device will use the address specified in OPTION 150 (TFTP-server-name) or OPTION 66. If both options are set, the device will use OPTION 150. Refer to the documentation of your DHCP server for setting up OPTION 150.

To set up a Linux DHCPD server to serve autoprovisioning information (in this case using both option 66 and 150), here's an example `dhcpd.conf`:

```
# dhcpd.conf
#
# Configuration file for ISC dhcpd (see 'man dhcpd.conf')
#
ddns-update-style ad-hoc;

option option-150 code 150 = ip-address;

subnet 10.0.0.0 netmask 255.0.0.0 {
    max-lease-time 120;
    default-lease-time 120;

    option routers                10.0.0.1;
    option subnet-mask            255.0.0.0;

    option domain-name            "voiplab";
    option domain-name-servers    10.0.0.1;

    option time-offset            -8;      # Pacific Standard Time

    option tftp-server-name       "10.0.0.254";

    option option-150             10.0.0.254;

    range 10.10.0.1 10.10.2.1;}
```

Autoprovisioning Server (IP Address) Instead of using DHCP to provide the autoprovisioning tftp server address, you can specify an address manually.

Autoprovisioning Autoupdate If **Autoprovisioning** is enabled and the **Autoprovisioning Autoupdate** value is something other than 0 minutes, a service is started on startup that will wait the configured number of minutes and then try to re-download its autoprovisioning file. It will compare its previously autoprovisioned file with this new file and if there are differences, it will reboot the board.

Autoprovisioned Firmware Upgrades An Autoprovisioned firmware upgrade only happens after a reboot, will take roughly three minutes, and the web page will be unresponsive during this time.

The '**FirmwareVersion**' value in the xml file *must* match the version stored in the '**FirmwareFile**'. For example:

```
<FirmwareVersion>v6.0.0</FirmwareVersion>
<FirmwareFile>600-uImage-zonecontroller</FirmwareFile>
```

If these values are mismatched, the board can get stuck in a loop where it goes through the following sequence of actions:

1. The board downloads and writes a new firmware file.
2. After the next reboot, the board recognizes that the firmware version does not match.
3. The board downloads and writes the firmware file again.

CyberData has timed a firmware upgrade at 140 seconds. Therefore, if you suspect the board is stuck in a loop, either remove or comment out the **FirmwareVersion** line in the XML file and let the board boot as it normally does.

Note For information about TFTP servers, see [Appendix Section A.1, "Set up a TFTP Server"](#).

Autoprovisioned
Audio Files

Audio files are stored in non-volatile memory and an autoprovisioned audio file will only have to be downloaded once for each device. Loading many audio files to the device from the web page could cause it to appear unresponsive. If this happens, wait until the transfer is complete and then refresh the page.

The device uses the file name to determine when to download a new audio file. This means that if you used autoprovisioning to upload a file and then changed the contents of this file at the TFTP server, the device will not recognize that the file has changed (because the file name is the same).

Since audio files are stored in non-volatile memory, if autoprovisioning is disabled after they have been loaded to the board, the audio file settings will not change. You can force a change to the audio files on the board by one of the following two ways:

- Click **Delete** for each file that you want to restore to the factory default audio file on the **Audio Configuration** page.
- Change the autoprovisioning file with the word "*default*" set as the file name.

2.5 Upgrading the Firmware

1. Click the **Update Firmware** button to open the **Upgrade Firmware** page. See [Figure 2-20](#).

Figure 2-20. Upgrade Firmware Page

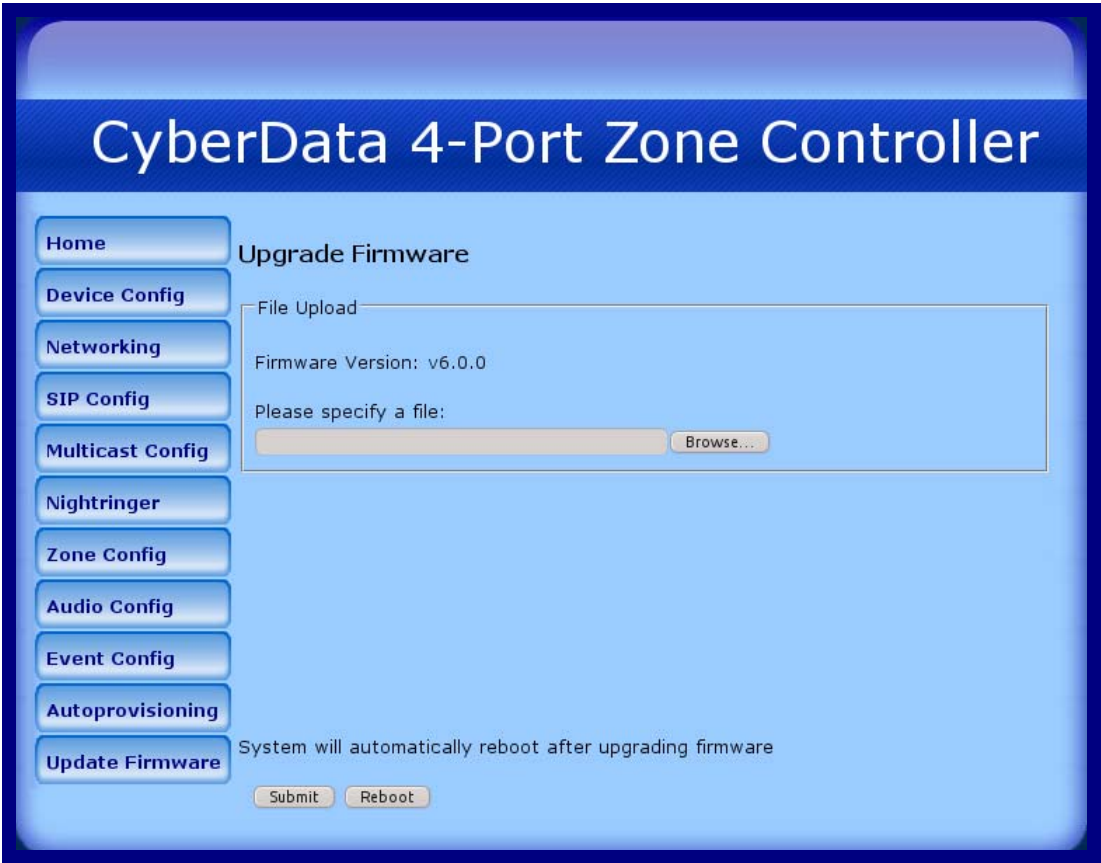


Table 2-11 shows the web page items on the **Upgrade Firmware** page.

Table 2-11. Upgrade Firmware Parameters

Firmware Version	Shows the current firmware version.
Please specify a file	Click the button to navigate to the application firmware file that you want to upload.
Submit	Click on the button to automatically upload the selected firmware and reboot the system.
Reboot	Click on the button to reboot the system.

2.5.0.1 Upgrade the Firmware

To upload the firmware from your computer:

1. Retrieve the latest V3 Zone Controller firmware from the VoIP V3 Paging Server **Downloads** page at:
<http://www.cyberdata.net/products/voip/legacyanalog/pagingzonev3/downloads.html>
2. Unzip the V3 Zone Controller version file. This file may contain the following:
 - Firmware file
 - Release notes
3. Log in to the V3 Zone Controller home page as instructed in [Section 2.4.3, "Log in to the Configuration GUI"](#).
4. Click the **Update Firmware** button to open the **Upgrade Firmware** page. See [Figure 2-20](#).
5. Click **Browse**, and then navigate to the location of the V3 Zone Controller firmware file.
6. Click **Submit**.

Note This starts the upload process. Once the V3 Zone Controller has uploaded the file, the **Uploading Firmware** countdown page appears, indicating that the firmware is being written to flash. The V3 Zone Controller will automatically reboot when the upload is complete. When the countdown finishes, the **Upgrade Firmware** page will refresh. The uploaded firmware filename should be displayed in the system configuration (indicating successful upload and reboot).

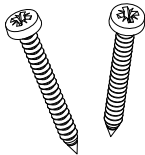
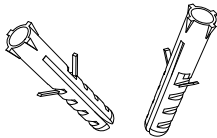
Appendix A: Mounting the V3 Zone Controller

A.1 Mount the V3 Zone Controller

A.1.1 Mounting Components

Before you mount the V3 Zone Controller, make sure that you have received all of the parts for each V3 Zone Controller. Refer to [Table A-1](#).

Table A-1. Wall Mounting Components (Part of the Accessory Kit)

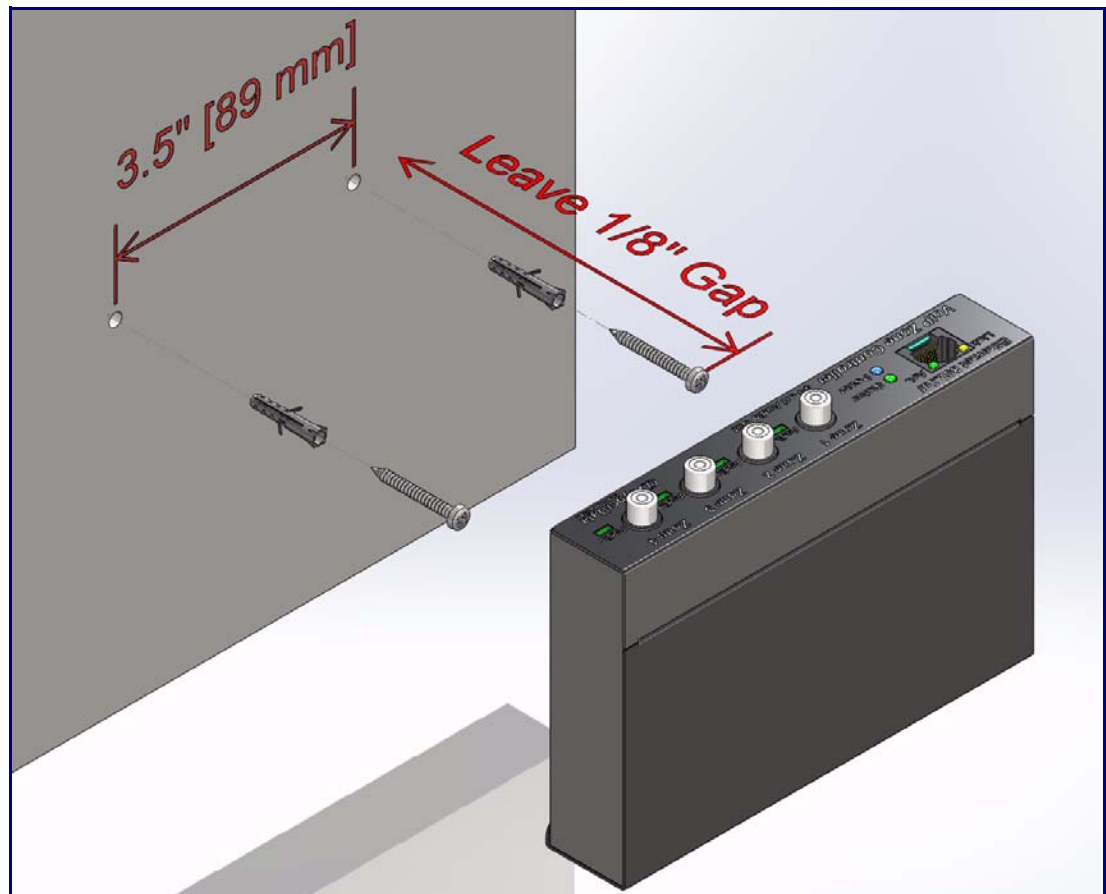
2	#6 x 1 1/2-inch Screws	
2	#6 Plastic-Ribbed Anchors	

A.1.2 Mounting Procedure

To mount the V3 Zone Controller:

1. On the mounting location, mark and then drill two 3/16-inch (0.1875-inch) holes 3.5 inches apart from and parallel to each other for the plastic-ribbed anchors and screws. See [Figure A-1](#).
2. Insert the plastic-ribbed anchors into the prepared holes. See [Figure A-1](#).
3. Install the #6 screws into the plastic-ribbed anchors and leave approximately 1/8-inch gap from the screw head to the wall. See [Figure A-1](#).
4. Determine which sides of the V3 Zone Controller will be facing up, and then slide the V3 Zone Controller down over the screws to latch onto the screws.

Figure A-1. Mounting



Appendix A: Setting Up a TFTP Server

A.1 Set up a TFTP Server

Autoprovisioning requires a TFTP server for hosting the configuration file.

A.1.1 In a LINUX Environment

To set up a TFTP server on LINUX:

1. Create a directory dedicated to the TFTP server, and move the files to be uploaded to that directory.
2. Run the following command where `/tftpbboot/` is the path to the directory you created in [Step 1](#): the directory that contains the files to be uploaded. For example:

```
in.tftpd -l -s /tftpbboot/your_directory_name
```

A.1.2 In a Windows Environment

You can find several options online for setting up a Windows TFTP server. This example explains how to use the Solarwinds freeware TFTP server, which you can download at:

<http://www.cyberdata.net/support/voip/solarwinds.html>

To set up a TFTP server on Windows:

1. Install and start the software.
2. Select **File/Configure/Security** tab/**Transmit Only**.
3. Make a note of the default directory name, and then move the firmware files to be uploaded to that directory.

Appendix B: Troubleshooting/Technical Support

B.1 Frequently Asked Questions (FAQ)

Go to the following URL to see CyberData's list of frequently asked questions:

<http://www.cyberdata.net/products/voip/legacyanalog/pagingzonev3/faqs.html>

B.1.1 Documentation

The documentation for this product is released in an English language version only. You can download PDF copies of CyberData product documentation at:

<http://www.cyberdata.net/products/voip/legacyanalog/pagingzonev3/docs.html>

B.2 Contact Information

Contact	CyberData Corporation 3 Justin Court Monterey, CA 93940 USA www.CyberData.net Phone: 800-CYBERDATA (800-292-3732) Fax: 831-373-4193
Sales	Sales 831-373-2601 Extension 334
Technical Support	The fastest way to get technical support for your VoIP product is to submit a VoIP Technical Support form at the following website: http://www.cyberdata.net/support/contactsupportvoip.html We have several technical support staff monitoring this form and they will contact you within 12 hours after receiving a form submission. Phone: (831) 373-2601, Ext. 333 Email: support@cyberdata.net
Returned Materials Authorization	To return the product, contact the Returned Materials Authorization (RMA) department: Phone: 831-373-2601, Extension 136 Email: RMA@CyberData.net When returning a product to CyberData, an approved CyberData RMA number must be printed on the outside of the original shipping package. No product will be accepted for return without an approved RMA number. Send the product, in its original package, to the following address: CyberData Corporation 3 Justin Court Monterey, CA 93940 Attention: RMA "your RMA number"
RMA Status Form	If you need to inquire about the repair status of your product(s), please use the CyberData RMA Status form at the following web address: http://www.cyberdata.net/support/rmastatus.html

B.3 Warranty

CyberData warrants its product against defects in material or workmanship for a period of two years from the date of purchase. Should the product fail within the warranty period, CyberData will repair or replace the product free of charge. This warranty includes all parts and labor.

Should the product fail out-of-warranty, a flat rate repair charge of one half of the purchase price of the product will be assessed. Repairs that are in warranty but are damaged by improper modifications or abuse, will be charged at the out-of-warranty rate. Products shipped to CyberData, both in and out-of-warranty, are shipped at the expense of the customer. Shipping charges for repaired products shipped back to the customer by CyberData, will be paid by CyberData.

CyberData shall not under any circumstances be liable to any person for any special, incidental, indirect or consequential damages, including without limitation, damages resulting from use or malfunction of the products, loss of profits or revenues or costs of replacement goods, even if CyberData is informed in advance of the possibility of such damages.

B.3.1 Warranty & RMA Returns within the United States

If service is required, you must contact CyberData Technical Support prior to returning any products to CyberData. Our Technical Support staff will determine if your product should be returned to us for further inspection. If Technical Support determines that your product needs to be returned to CyberData, an RMA number will be issued to you at this point.

Your issued RMA number must be printed on the outside of the shipping box. No product will be accepted for return without an approved RMA number. The product in its original package should be sent to the following address:

CyberData Corporation
3 Justin Court.
Monterey, CA 93940
Attn: RMA "xxxxxx"

B.3.2 Warranty & RMA Returns Outside of the United States

If you purchased your equipment through an authorized international distributor or reseller, please contact them directly for product repairs.

B.3.3 Spare in the Air Policy

CyberData now offers a *Spare in the Air* no wait policy for warranty returns within the United States and Canada. More information about the *Spare in the Air* policy is available at the following web address:

<http://www.cyberdata.net/support/warranty/spareintheair.html>

B.3.4 Return and Restocking Policy

For our authorized distributors and resellers, please refer to your CyberData Service Agreement for information on our return guidelines and procedures.

For End Users, please contact the company that you purchased your equipment from for their return policy.

B.3.5 Warranty and RMA Returns Page

The most recent warranty and RMA information is available at the CyberData Warranty and RMA Returns Page at the following web address:

<http://www.cyberdata.net/support/warranty/index.html>

Index

Numerics

100 Mbps indicator LED 7

A

act LED 7
 activity LED 7
 address, configuration login 11
 addressing
 DHCP 9, 17
 static 9, 17
 admin username and password 11
 amplifier connections
 cables used 1, 5
 audio activity LED 7
 audio configuration 26
 night ring tone parameter 28
 audio configuration page 26
 authenticate ID and password for SIP server
 registration 20
 autoprovisioning 38
 autoprovisioned audio files 40
 autoprovisioned firmware upgrades 39
 autoprovisioning autoupdate 39
 autoprovisioning enabled option 38
 autoprovisioning from DHCP 38
 autoprovisioning server (IP address) 39
 networking 38
 autoprovisioning configuration 36, 37

B

blue status LED 7
 bypass DTMF 25

C

cables used to connect the paging device to the legacy
 analog amplifiers 1, 5
 changing
 the web access password 14
 changing default username and password for
 configuration GUI 11
 configurable parameters 13, 15, 17
 configuration information 9

configuration page
 configurable parameters 13, 15, 17
 connection speed 2
 10 Mbps 7
 100 Mbps 7
 connection speeds 7
 connections
 cables used 1, 5
 contact information 47
 contact information for CyberData 47
 Current Network Settings 17
 current network settings 17
 current settings, reviewing 13
 CyberData contact information 47

D

default
 gateway 8
 IP address 8
 subnet mask 8
 username and password 8
 default gateway 8, 17
 default gateway for static addressing 17
 default login address 11
 default password for configuration GUI 11
 default settings, restoring 8
 default username and password for configuration
 GUI 11
 device configuration 14
 device configuration parameters 37
 the device configuration page 36
 device configuration page 14
 device configuration parameters 15
 device configuration password
 changing for web configuration access 14
 DHCP addressing 9, 17
 DHCP IP addressing 17
 dimensions 2
 discovery utility program 11
 DNS server 17
 door sensor 28

E

enable night ring events 32
 event configuration
 enable night ring events 32

expiration time for SIP server lease 19, 20, 23

F

features 2

firmware

where to get the latest firmware 42

firmware upgrade parameters 41

firmware, upgrade 13, 41

G

Group 24

GUI username and password 11

I

identifying your product 1

illustration of device mounting process 43

IP address 8, 17

SIP server 19

IP addressing 17

default

IP addressing setting 8

L

lease, SIP server expiration time 19, 20, 23

link LED 7

Linux, setting up a TFTP server on 45

local SIP port 19

log in address 11

logging in to configuration GUI 11

M

mounting procedure 44

mounting the device 43

N

navigation (web page) 10

navigation table 10

network configuration page 16

network parameters, configuring 16

network setup button 13, 16

network, connecting to 6

nightringer settings 23

O

operating the zone controller 25

output connections 1, 5

P

paging LED 7

part number 2

parts list 3

password

configuration GUI 9, 11

for SIP server login 19

restoring the default 8

SIP server authentication 20

pgroups configuration 13

point-to-point configuration 21

port

local SIP 19

remote SIP 19

power

connecting to 5

requirement 2

power status LED 7

product

mounting 43

product overview 1

R

reboot 41

unregistering from SIP server during 20

registration and expiration, SIP server

lease expiration 20

regulatory compliance 2

remote SIP port 19

required configuration for web access username and password 9, 11

resetting the IP address to the default 43, 46

restoring factory default settings 8

return and restocking policy 49

RMA returned materials authorization 47

RMA status 47

RTFM switch 8

S

- sales 47
- server
 - SIP 13
 - TFTP 45
- server address, SIP 19
- service 47
- SIP
 - local SIP port 19
 - user ID 19
- SIP configuration
 - SIP Server 19
- SIP configuration page 18
- SIP configuration parameters 19
 - outbound proxy 19
 - registration and expiration, SIP server lease 19, 23
 - unregister on reboot 19
 - user ID, SIP 19
- SIP registration 19
- SIP remote SIP port 19
- SIP server 19
 - password for login 19
 - unregister from 19
 - user ID for login 19
- SIP server configuration 13
- SIP server parameters, configuring 9
- SIP settings 19
- SIP setup button 13, 18
- Spare in the Air Policy 48
- specifications 2
- speed of connection 2
- static addressing 9, 17
- static IP addressing 17
- status LED 7
- Stored Network Settings 17
- subnet mask 8, 17
- subnet mask static addressing 17
- supported protocols 2

T

- tech support 47
- technical support, contact information 47
- TFTP server 45

U

- unregister from SIP server 20
- upgrade firmware 13, 41
- upgrade firmware button 13
- user ID

- for SIP server login 19
- user ID for SIP server registration 20
- username
 - changing for web configuration access 14
 - restoring the default 8
- username for configuration GUI 9, 11

W

- warranty 48
- warranty & RMA returns outside of the United States 48
- warranty & RMA returns within the United States 48
- warranty and RMA returns page 49
- warranty policy at CyberData 48
- web configuration log in address 11
- web page
 - navigation 10
- web page navigation 10
- weight 2
- Windows, setting up a TFTP server on 45

Z

- Zone 24
- zone controller
 - configuration 9
- zone controller operation 25
- zone setup
 - bypass DTMF 25